Epidemiology of corynebacterial urinary infections

For a long time corynebacteria have not been accepted as true pathogens, but as contaminants, due to insufficient data on their role in human infections.[1] The aim of our study was to investigate the characteristics of patients experiencing urinary infections due to corynebacteria. Between 2000 and 2001, 9410 urinary specimens were cultured in sheep blood agar and eosin methylene blue agar. All cultures included were obtained from single patients. The agar plates were incubated for 7 days. The corynebacterial samples exceeding 100 000 cfu/ml were evaluated. Catalase positive, grey–white and opaque colonies with Gram-positive bacilli resembling Chinese letters were processed. For the identification of the bacteria an automatic API system involving 20 enzymatic reactions (BioMerieux, France) was used,[2] after which both the patients and their clinicians were contacted in order to evaluate each case. When the patient was diagnosed with symptomatic urinary tract infection,[3] they were evaluated for any underlying pathology.

In our study, 12 corynebacterial species were isolated from 54 patients as the causative agents of urinary infections. When the patients were assessed 46 (85%) underlying pathologies were observed. The following cases were recorded: 11 cases of chronic renal insufficiency (five *C. jeikeium*, four *C. urealyticum*, two *C. striatum*), one chronic renal failure plus diabetes mellitus (*C. jeikeium*), seven chronic urinary infection (two *C. amycolatum*, two *CDC-G* (Centers for Disease Control Group G), one *C. aquaticum*, one *C. jeikeium*, one *C. urealyticum*), six chronic pyelonephritis (two *C. jeikeium*, one *C. amycolatum*, one *C. striatum*, one *C. urealyticum*, one *C. renale*), three chronic prostatitis (two *C. seminale*, one *C. aquaticum*), two urinary bladder carcinoma (one *C. jeikeium*, one *C. afermentans*), two urinary stricture (one *C. striatum*, one *CDC-G*), two burn injuries (one *C. macginleyi*, one *C. coyleae*) and two urolithiasis (one *C. amycolatum*, one *C. aquaticum*), one acute renal failure (*C. striatum*), one adrenal insufficiency (*C. amycolatum*), one osteoporosis (*C. urealyticum*), one ovarian adenocarcinoma (*C. urealyticum*), one pancreas carcinoma (*C. striatum*), one prostate carcinoma (*C. amycolatum*), one gunshot wound (*C. pseudodiphtheriticum*), one diabetic nephropathy (*C. striatum*), one hand reconstruction (*C. jeikeium*), and one cranial trauma (*C. amycolatum*).

When the underlying pathologies were assessed, it was seen that 37 of 46 (80.4%) concomitant diseases were associated with the urinary system. Moreover, 68.5% of all urinary infections due to corynebacteria were related to the same system (CDC-G). Underlying pathologies were not observed for eight urinary infections (three *C. urealyticum*, two *C. pseudodiphtheriticum*, two *C. striatum*, one *CDC-G*).

In conclusion, if corynebacterial pathogens are the causative agents of urinary infections, premorbid conditions which are primarily related to chronic disorders of the urinary system are quite common. Furthermore, when corynebacteria are recovered as the causative agents of urinary infections, clinicians should take serious underlying urinary diseases into consideration.

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Frequency of isolation of pathogens from nosocomial bloodstream infection in a tertiary referral hospital in the United Arab Emirates

Data on antimicrobial resistance and patterns of nosocomial infection are lacking for the United Arab Emirates (UAE).[1] From February 2001 to May 2002, we performed a surveillance study on nosocomial bloodstream infection in a tertiary referral hospital in the UAE. The laboratory and clinical data on all positive blood cultures were reviewed prospectively. Parameters used to define strains as clinically significant and representing true infection rather than contamination, included the identity of the microorganism, the presence of more than one blood culture with the same microorganism and the presence of the same microorganism as that found in the blood in another site. Nosocomial bloodstream infection was defined as bacteremia occurring >48 hours or longer after admission.[2] Blood cultures were analyzed using the Vital analyzer (BioMerieux, France). All antimicrobial tests were performed by disc diffusion in